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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/116,138	07/15/1998	JOHN MARK ANTHONY	TI-24953	2214

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EXAMINER

MAI, ANH D

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 01/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/116,138

Applicant(s)

ANTHONY ET AL.

Examiner

Anh D. Mai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30,36-40 and 46-80 is/are pending in the application.
- 4a) Of the above claim(s) 2-25,28,29,36-40 and 46-80 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 26,27 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse the specie of claim 30 in Paper No. 23 is acknowledged. The traversal is on the ground(s) that the alternative process to produce the device is a hypothetical process. This is not found persuasive because applicant fails to provide any evidence that the alternative process can not form the metal silicate layer and further fails to prove that the claimed method is the only method that forms metal silicate layer.

Additionally, applicant does not traverse the finding that the species, claims invention, are patentably distinct but rather traverse on the ground that searching for more than 20 species do not place a serious burden of the examiner.

Each application is examined individually. Thus, the previously received Office Action from different examiners can not be used for this instant application unless the same invention is claimed again.

Regarding the great deal of time invested, the USPTO has no control over how long applicant spends on his application. But 70 claims and well more than 20 distinct species are obviously a serious burden on searching and action on merit.

Applicant has recognized that the addition of claims 46-80 has presented little **additional burden** to the examination of this application.

The requirement is still deemed proper and is therefore made FINAL.

Claims 2-25, 28, 29, 36-40 and 46-80 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions and/or species, there being no

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allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 23.

2. This application contains claims 2-25, 28, 29, 36-40 and 46-80 drawn to an invention nonelected with traverse in Paper No. 23. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

The Office Action on merit of the elected specie, claims 1, 26, 27 and 30 follows.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “field-effect device” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hsieh et al. (U.S. Patent No. 4,432,035).

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Hsieh teaches a method of fabricating a field-effect device on an integrate circuit as claimed including:

- providing a single-crystal substrate (10);
- forming a metal silicate dielectric layer (12) on the substrate; and
- forming a conductive gate (14) overlying the metal silicate dielectric layer. (See Fig. 2).

5. Claim 1 is rejected under 35 U.S.C. 102(e) as being clearly anticipated by Thakur et al. (U.S. Patent No. 5,686,748).

Thakur teaches a method of fabricating a field-effect device on an integrate circuit as claimed including:

- providing a single-crystal substrate (60);
- forming a metal silicate dielectric layer (65) on the substrate; and
- forming a conductive gate (66) overlying the metal silicate dielectric layer. (See Fig. 7).

Allowable Subject Matter

6. Claims 26, 27 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: prior art of record fails to teaches a method of forming a semiconductor device on an integrated circuit including: depositing a partially reduced metal silicate layer on the silicon surface.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's argument regarding the none elected species are moot.

7. Applicant's arguments filed August 9, 2000 have been fully considered but they are not persuasive.

Regarding the reference to Hsieh '035 and Thakur '748.

In response to applicant's arguments that Hsieh '035 and Thakur '748 do not show fabricating a field-effect device, the recitation **fabricating a field-effect device** has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim **does not depend on the preamble** for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Secondly, the process steps of claim 1 only shows the formation of a Metal Oxide Semiconductor (MOS). Hsieh '035 and Thakur '748 clearly teach a similar MOS structure including all three process steps. Additionally, a MOS device is well known in the semiconductor art to be a field-effect device.

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To further understand the utility of the high permittivity dielectric material in semiconductor devices, gate dielectric or capacitor dielectric, applicant is invited to review the previously cited reference to Hasegawa (U.S. Patent No. 5,677,015).

The rejection of claim 1 under 35 U.S.C. 102 for being clearly anticipated by Hsieh '035 and Thakur '748 is therefore, maintained.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh D. Mai whose telephone number is (703) 305-0575. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the


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organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A.M

January 3, 2002


Olik Chaudhuri
Supervisory Patent Examiner
Technology Center 2800